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Institutions Unite: Collaborative Efforts to Preserve Marine Biodiversity beyond National Jurisdiction

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ABSTRACT

Waters that extend beyond the national jurisdictions of world countries, which amount to more than two-thirds of the Earth's oceans are known as the high-seas. The tapestry of resources in the deep blue have a lot to contribute to the health of our planet, but harnessing positive results depends on striking the right balance between the principle of common heritage of mankind and benefit-sharing. The most pressing concerns with the ocean economy is that they are becoming warmer, more acidic and contain less oxygen. Although the existence of the United Nations Convention on the Law of Sea (UNCLOS) 1982 governs the affairs in and under the international waters, the most challenging issue today is the management of the marine genetic resources in the high seas. Making effective utilization of such high seas lies in the sustainable use and conservation of the marine biological diversity present therein, which is also highlighted in the Sustainable Development Goal (SDG) 14: Life Below Water. The 4th session of the Inter-Governmental Conference (IGC 4) set the motion for an international legally binding agreement, the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement, to govern the issue of conservation and achieving sustainability of use of biodiversity in the deep seabed and high seas which are also known as areas beyond national jurisdiction (ABNJ). This treaty aims to substantively cover a plethora of complex issues such as benefit-sharing, area-based management tools, marine genetic resources, transfer of marine technology and environment impact assessments. The UN recently proclaimed that the years 2021 to 2030 will be known as the Decade of Ocean Science for Sustainable Development which aims at gathering ocean stakeholders internationally, to extend support in "creating improved conditions for sustainable development of the Ocean". Through this paper, the authors try to discuss the roles of various such stakeholders which includes regional, national as well as international institutions in the effective implementation of the BBNJ Agreement by employing doctrinal method.

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I. INTRODUCTION

Ocean area comprises of over 71 percentage of our Earth's surface. The oceans play a pivotal role in striking a balance between the human activities and preserving the marine environment that includes all the marine biodiversity as well. Mankind is very much dependent on the resources of the blue that the majority of the trade is being carried out via the sea routes and hence new sea routes are being discovered almost very often. However, this enormous dependence has placed the conservation of these blue resources into question. The achievability of Sustainable Development Goal (SDG) 14 – Life Below Water, aims at combating the issue of balancing human needs from the ocean resources and its conservation. By 2030, the UN aims to achieve this agenda. Also, the SDG 14 emphasizes on addressing the issue of ocean noise as a very serious marine pollution issue that has a detrimental impact on the fish species.

Fig 1. Importance of our world ocean[3]

The current position of our oceans and its resources are pathetic since the world's oceans face depletion at an alarming rate. Though there are national and international instruments governing the activities of the ocean economy, the ocean economy always faces deterioration and exploitation far beyond the sustainable limits. SDG 14 also aims at bringing down the

[3] National Ocean Service – National Oceanic and Atmospheric and Administration

levels of marine pollution and ensuring high protection of the coastal and marine ecosystems.

"My mantra every day is that you cannot have a healthy planet without a healthy ocean. But ocean health is in decline due primarily to greenhouse gas emissions. The ocean is increasingly acidic, has less oxygen and is warmer. This leads to the death of coral, rising sea levels and changing ocean currents among other things. The ocean is also under pressure from pollution; there will be more plastic than fish in it by 2050. Mangroves, sea grasses and kelp forests are still being destroyed despite the fact that they sequester 10 times more carbon than forests on land."[4]

The key to marine biodiversity, the home to many unique species, and a rich tapestry of natural resources, the areas beyond national jurisdiction (ABNJ) make up nearly 2/3rd of the ocean area all over the world.

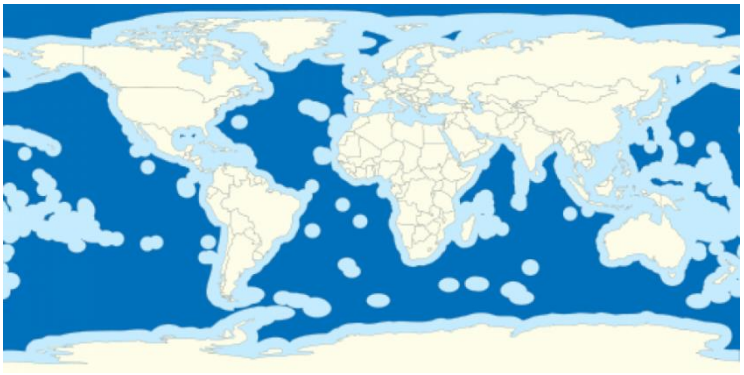


Fig 2. Areas beyond national jurisdiction are the dark blue areas of the map[5]

The discussions that are being held in the light of marine biodiversity beyond national jurisdictions are complex and vast. The issue that seems to be the most challenging one in the field of ocean affairs is that of management of the marine genetic resources that are found in the high seas. This issue encompasses a wide range of fundamental questions such as benefit sharing, common heritage of mankind, what exactly is marine genetic resources, what actually amounts to marine biodiversity conservation and a lot more. The threat of pollution and loss of marine serenity is increasing with an increased range of economic activities in the ABNJ and BBNJ areas. This calls all the world nations to join hands in taking necessary action to make a specific arrangement, sui generis, which will be unique in conserving the epicenters of marine biodiversity within and beyond national jurisdictions.

The issue concerning how benefits from BBNJ are to be shared can be addressed on both monetary as well as non-monetary grounds. Addressing via monetary values have a high

[4] UN Special Envoy for Ocean, Peter Thomson, Interview, "Moving the Needle on Sustainable Blue Economy", https://www.un.org/en/climatechange/peter-thomson-sustainable-blue-economy
[5] Wikkimedia Commons

possibility of causing chaos among the institutions and the nations. Whereas, adding non-monetary values to benefit sharing which will include sharing knowledge with other countries in the form of educational exchanges, or academic scholarships, and imposing a specified time period for the intellectual property rights that are harnessed out the BBNJ areas. It is about striking balance between the principle of common heritage of mankind and the principle of benefit sharing.

The journey towards realization has already begun as we can see that the Intergovernmental Conference 4 has set the motion for the same. It aims at developing a legally binding international instrument at the earliest, to protect, conserve and sustainably use and manage the marine resources that are found in areas beyond national jurisdictions.

II. Existing legal framework governing marine biodiversity beyond national jurisdiction {BBNJ}

Since the sea carries more than 80% of the world's commerce trade, maritime transportation is essential to global trade. Furthermore, in many nations and communities, fisheries, especially aquaculture, remain a significant source of food, jobs, and income. Additionally, there is a growing trend in the utilization of the maritime environment and its resources, particularly in BBNJ. For example, the volume of goods handled by maritime transport climbed to 10.7 billion tons in 2017. This increase also brought with it an increase in the environmental effects of shipping, such as air and marine pollution, trash, and the introduction of invasive species.

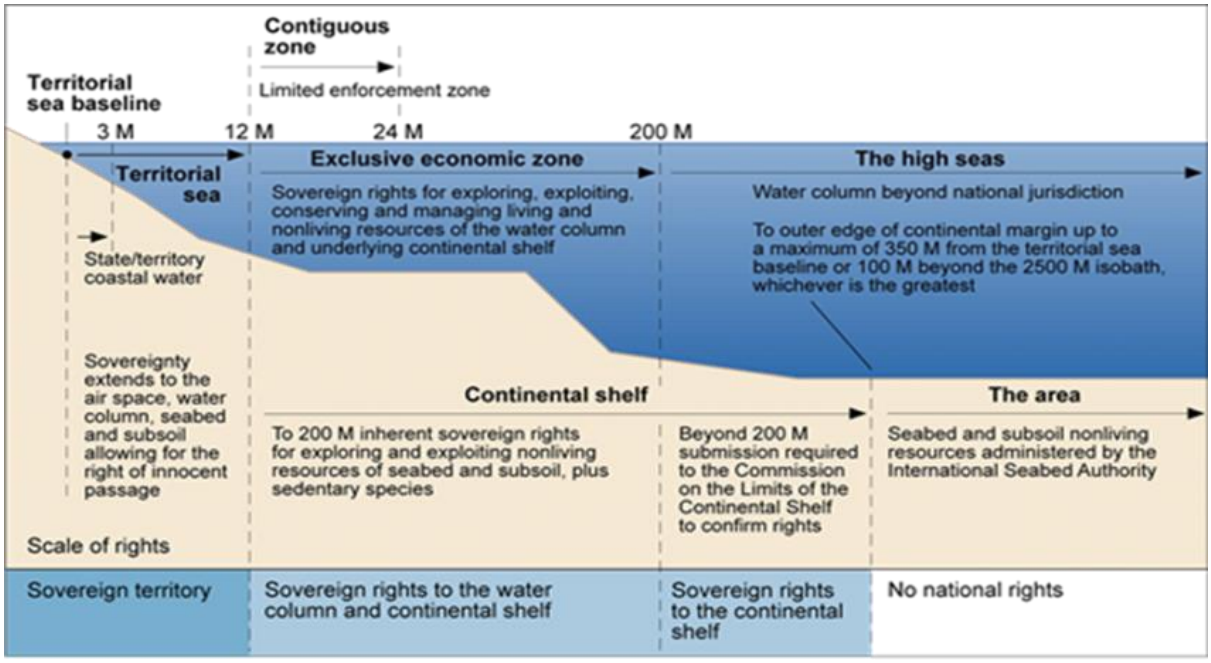
BBNJ's marine ecosystems may also be significantly impacted by other marine activities such as high seas fishing, seabed mining, submarine cables, marine scientific research, bio prospecting (the search for genes in organisms living in extreme environments), and the development of commercial products. Furthermore, marine ecosystems are under increasing strain due to greenhouse gas emissions, ocean acidification, and climate change, which weakens their resilience and exacerbates already-existing effects.

Access and benefit sharing, as well as the conservation of marine genetic resources, are particularly important in this context from the perspective of developing countries. BBNJ hold unique oceanographic and biological features and play a role in climate regulation. They provide seafood, raw materials, genetic, and medicinal resources, which are of increasing commercial interest and hold promise for the development of new drugs to treat infectious diseases that are a major threat to human health globally.[6]

[6]https://unctad.org/news/conservation-and-sustainable-use-marine-biodiversity-areas-beyond-national-

"The Area" and "the high seas" are the two geographical zones in BBNJ that are distinguished by United Nations Convention on the Law of Sea (UNCLOS)[7]. "The seabed and ocean floor, and subsoil thereof, beyond the limits of national jurisdiction" is the definition of "The Area" (Article 1). Activities in the Area must be carried out "for the benefit of mankind, irrespective of the geographical location of States, whether coastal or land-locked, and taking into particular consideration the interests and needs of developing States" (Article 140). The Area and its mineral resources are recognized as the "common heritage of mankind" (Article 136). Established under UNCLOS (Article 156), the International Seabed Authority (ISA) is the body through which the Parties coordinate and control operations in the Area, including the administration of its resources.

The freedom of the high seas principle governs "the high seas," which are defined as "all parts of the sea that are not included in the EEZ, in the territorial sea, or in the internal waters of a State" (Article 86). This includes the water column. These include the freedoms of fishing, building artificial islands and other facilities, building submarine cables and pipelines, overflying, navigation, and performing scientific research (Article 87). These liberties are not unrestricted, though, as States are subject to a variety of duties and responsibilities to other States as well as to the maritime environment due to UNCLOS and other treaty obligations, which places restrictions on their use.



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[7]Convention on the Law of the Sea, Dec.10 1982, 1833 U.N.T.S. 397

Fig 3. Maritime Zones and Rights specified under UNCLOS[8]

The United Nations Convention on the Law of the Sea lays out the rights and responsibilities of States concerning the exploitation of the oceans and their resources and the preservation of the maritime and coastal environment. However, UNCLOS does not explicitly address marine biodiversity or the exploration and utilization of resources in the water column of BBNJ. UNCLOS' general environmental obligations, which apply to both the High Seas and the Area, include the following: Conservation and management of the living resources in the high seas, as outlined in Articles 116-120; Protection and preservation of the maritime environment, as outlined in Article 192; Prevention, reduction and control of pollution in the marine environment, outlined in Articles 194-196; Preservation and conservation of rare or fragile eco-systems, as well as habitats of depleted, endangered or threatened species and other marine life, outlined in Articles 197, 208-212; Cooperation with other States at regional and global level (Articles 242-244).

In addition to the definition of biodiversity, Convention on Marine Biodiversity (CBD)[9] stipulates that CBD Parties must ensure that activities under their control or jurisdiction do not cause environmental damage to other States or areas beyond their control (Article 3) and that they must cooperate (Article 5) directly or through relevant international organizations to ensure that marine biodiversity is conserved and sustainably exploited. The Nagoya protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization, which entered into force on 12 October 2014 (107 Parties), covers genetic resources under CBD Article 15 and traditional knowledge related to genetic resources under CBD.

There are other international conventions and instruments that only cover specific issues and geographic areas, resulting in a patchwork of legal and regulatory frameworks for BBNJ. These include, but are not limited to: FAO (Fisheries and Aquaculture Organization) and regional agreements IMO (International Maritime Organization), conventions (Maritime Pollution Regulation, Marine Protected Areas, Vessel Traffic Restrictions, Vessel Monitoring, and Anthropogenic Ocean Noise), UNESCO instruments (Convention on the protection of the underwater cultural heritage, Conservation of Specific Species, Migration and Endangered Species), UNEP (Regional Seas Programme) instruments and Other regional seas initiatives.

While States frequently mention key principles from UNCLOS, CBD and other international instruments when addressing BBNJ issues, there is currently no comprehensive legal

[8] Protection of the Arctic Marine Environment (PAME) and the Arctic Council
[9] Convention on Biological Diversity, Jun.5 1992, 1760 U.N.T.S 69

framework dedicated to BBNJ. Consequently, the establishment of an international legal instrument with clear and uniform provisions for BBNJ is necessary to enhance decision-making process and foster cooperation.

III. THE BBNJ AGREEMENT

The International Union for Conservation of Nature (IUCN) is an organization that is committed towards adopting a very ambitious treaty that will internationally legally bind all the nations to conserve the biodiversity in marine areas that are beyond national jurisdictions. An intergovernmental Conference (IGC) was convened in 2019 whose main aim was to prepare a series of tools and resources which will address four key areas in building a treaty to govern marine biodiversity beyond national jurisdictions.[10]

These four areas include:

1. Marine Genetic Resources, Benefit-Sharing and their Access

The benefits shared can be monetary or non-monetary. The agreement focuses on guiding institutions, scientists, researchers, industries and State parties to collaborate, provide and share access and reap benefits collectively from these BBNJ resources. Marine genetic research that is conducted by various countries can be facilitated so that it will result in enhanced technical yet sustainable advancements. The process of this marine research is based upon the proposal of Mare Geneticum which was developed by pioneers including lawyers and scientists. It paves way for a *"fair means of encouraging and rewarding research and development into marine genetic resources from areas beyond national jurisdictions and of sharing the benefits resulting from this work."*[11]

2. Marine Protected Areas as part of Area-based Management Tools

Article 2 of the Convention on Biodiversity defines a Marine Protected Area as a *"geographically defined marine area which is designated and regulated and managed to achieve specific conservation objectives."*[12] The BBNJ Agreement defines marine protected areas (MPAs) as areas that are set aside for conservation during a long period of time. Various such MPAs are globally connected through employing several area-based management tools (ABMTs) which in turn support ecological balance, help in preserving species and marine

[10] https://www.iucn.org/our-work/informing-policy/international-policy/marine-biodiversity-areas-beyond-national-jurisdiction-bbnj

[11] T. Vanagt, A. Broggiato, L.E. Lallier, M Jaspars, G. Burton and D Muyldermans, 'Mare Geneticum: Towards an Implementing Agreement for Marine Genetic Resources in International Waters' 27 in Freestone

[12] Article 2, Convention on Biological Diversity, Jun.5 1992, 1760 U.N.T.S 69

ecosystems and act as a resilient towards climate change. The ABMTs are employed based on the nature and types of ecosystems that are found in various BBNJ zones.

During the negotiations at the IGC, there were two distinct approaches that were formed – the global approach and the regional approach, which created a guaranteed system of cooperation and coherence among the State actors, aiming to fill the gaps in the management of BBNJ resources. However, these approaches were not clear-cut and seemed to be placed on a sliding scale spectrum. Hence, positions were classified based on the States' cooperation, consultation and balanced decision-making.[13]

3. Environment Impact Assessment (EIA) Standards

The process of environment impact assessment is viewed as a crucial too in preserving the originality and serenity of biodiversity. It applies to the marine ecosystem as well. The need for effective implementation of EIA in marine environment has been highlighted and endorsed by many regional and international organizations, policy statements, international legal instruments and the decisions of the ICJ and international tribunals.[14] The LOSC poses a general obligation on the part of the State parties to assess the marine activities that might potentially affect the marine ecosystem. The Convention on Biological Diversity establishes a connection between the obligation of the contracting parties to preserve the marine biodiversity and the conduct and monitoring of the EIA activities in such areas. A split-legal framework was developed because the areas beyond national jurisdictions were fragmented. Regional instruments like the Regional Seas Convention, OSPAR Commission, Madrid Protocol, and Barcelona Convention laid down prescribed steps for conduction EIA in ABNJ and also established collaborations between the competent regional and global authorities.

In the *Pulp Mills Case*, the ICJ held that "…it may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource."[15]

In the *Mox Plant case*, the International Tribunal for the Law Of Sea (ITLOS) came to a conclusion that the United Kingdom has performed a breach of its obligations under Article

[13] Nordquist, M. H., & Long, R. (Eds.). (2021). *Marine Biodiversity of Areas beyond National Jurisdiction*. Brill. http://www.jstor.org/stable/10.1163/j.ctv1sr6jp5

[14] These instruments include the regional seas conventions, the 1982 United Nations Convention on the Law of the Sea (LOSC), the 1991 Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol), the UN Fish Stocks Agreement (UNFSA) and the International Seabed Authority's Regulations for exploration contractors.

[15] Pulp Mills on the River Uruguay Case (Argentina/Uruguay) (Provisional Measures) (2006) icj Rep. para. 204.

206 of the LOSC wherein "it failed to carry out an adequate assessment of the potential impacts of a nuclear fuel reprocessing plant in Cumbria on the marine environment of the Irish Sea."[16]

4. Capacity Building and Transfer of Technology (CBTT)

Capacity building has become the need of the hour in the current era in the field of ocean science. There is a need to strike a balance between the ever-increasing demand of resources from the marine environment and the alarming stress on the oceans that result out of overfishing, climate change and pollution. Marine science and education needs to emphasize more on capacity building to address these issues. The Global Ocean Science Report, 2017 documents that "the capacity to do ocean science is heavily concentrated in certain countries and regions in the world." tries and regions in the world. In the UN Secretary-General´s 2019 Report on Oceans and the Law of the Sea it is reported that "[g]aps in human and institutional capacity and a lack of resources still hamper developing countries from taking full advantage of ocean science. The importance of developing human and institutional capacity relating to ocean science cannot, therefore, be overstated."[17]

Science continues to impact the ongoing advancements in governing the marine biodiversity in ABNJs. This also plays a pivotal role in the BBNJ Agreement under which scientific study has just begun to reveal the complete tapestry of resources and biodiversity found in the deep blues of our world oceans such as the 1,20,000 year old hydrothermal vents and 4,000 year-old corals. Marine technology transfer makes up one of the four main pillars of the BBNJ Agreement. This technology transfer aims at filling the gaps that exist between the existing technology and the monitoring of the human activities in the ABNJs. Marine science and technology, thereby, forms the cornerstone of the future BBNJ Agreement's discussions on CBTT.

IV. Role of Institutions

The implementation of the BBNJ Agreement calls for bodies at the global and regional or sectoral levels, solely based on the ideals of cooperation and subsidiarity for providing a mechanism to govern the marine biodiversity beyond national jurisdictions and preserving them in their original and serene form. Since the deep ocean blue is fragmented, the structuring of these organizations have also been dynamic. All the institutions have been allocated with a

[16] Mox Plant Case (Provisional Measures) itlos No. 10 (2001), para. 82; Alan Boyle, "Environmental Jurisprudence of the International Tribunal for the Law of the Sea" (2007) 22(3) International Journal for Marine and Coastal Law 377; Marie Cordonnier Segger, Marcus Gehring and Andrew Paul Newcombe, Sustainable Development in World Investment Law (Kluwer Law International, 2011) 152.
[17] https://undocs.org/en/A/RES/73/124

quasi-permanent competence which are subject to change and evolution over time. There are few existing organizations that govern the marine biodiversity such as;

- The General Fisheries Commission for the Mediterranean,
- The South East Atlantic Fisheries Organization,
- The South Pacific Regional Fisheries Management Organization,
- The OSPAR Commission,
- The Commission for the Conservation of Antarctic Marine Living Resources and
- The Mediterranean Action Plan for the Barcelona Convention[18]

However, these organizations do not govern the entire geographic coverage of the ABNJs of the world ocean and pertain to specific marine areas only. There are several other bodies that work collectively to conserve the marine biodiversity found in areas beyond national jurisdictions.

(A) The Global Ocean Observing System (GOOS)

The GOOS plays a key role in monitoring and understanding the challenges and dynamics and the complexity of ocean life at a global scale. BBNJ Agreement comes to a successful implementation based on the GOOS's report on the present state and trends in the deep blue.

(B) Intergovernmental Oceanographic Commission (IOC) of the UNESCO

This is the leader of the GOOS, which has developed an international framework of a list of Essential Ocean Variables (EOVs) that includes the various physical, biological, and biogeochemicals to monitor and keep track of the ocean's state and its variations. This framework comprises of 12 sets of EOVs which are dedicated to a wide range of marine biodiversity from microbes to phytoplanktons and from seabirds to marine mammals. The BBNJ Agreement functions with the help of such an ocean observing system.

(C) Deep Ocean Observing Strategy

It is an UN Ocean Decade project endorsed by the GOOS that analyses the critical gaps that still remain despite the collaborative efforts of various institutions. Through this strategy, the BioEco Portal suggests that only 7 percent of the ocean's activities in the deep blue are monitored in a sustainable way thereby making the accessibility of the BBNJ Agreement very limited. [19]

[18] https://www.frontiersin.org/articles/10.3389/fmars.2021.761552/full
[19] https://www.unesco.org/en/articles/high-seas-treaty-biodiversity-signed-what-do-we-need-do-next

(D) Ocean Biodiversity Information System (OBIS)

The EOV observations are aimed to be FAIR (Findable, Accessible, Interoperable and Reusable). The OBIS helps the GOOS to achieve this core mission. The OBIS is yet another program of the UNESCO that is a host to global biological data sets and serves as a key service in enabling open and free access to data on marine life.

"New discoveries and mapping of marine life resources can be facilitated through collective and sustained observing efforts, with the coordination facilitated by GOOS and its members. This way, we can ensure that marine life observations are accessible to all, and therefore can be delivered into the BBNJ agreement framework and meet the diverse needs of nations."[20]

(E) Ocean Panel

Also known as the High Level Panel for a Sustainable Ocean Economy, the Ocean Panel comes forward to put forth a new action agenda for building a sustainable blue economy where the three Ps – Protection, Production and Prosperity, converge. This Panel consists of 14 global members and plans to accelerate finance for managing ocean affairs. [21]

(F) Ocean Care

A part of the UN Department of Economic and Social Affairs, Sustainable Development, the Ocean Care joining hands with 24 other NGOs, called for immediate and necessary action to address ocean noise that is caused by human activities as a detrimental issue in marine environment which is a serious threat to marine biodiversity. It also calls for global action to restore the lost fish stock and increase the involvement of specialized UN agencies in reducing marine pollution. The Ocean Care also renders its support in the effective implementation of the BBNJ Agreement.[22]

(G) Ocean Frontier Institute (OFI)

The OFI took part in the first UN Ocean Conference that was held in support of achieving the SDG 14. It works as a research partner with the Government of Canada and aims at the safe and sustainable development of the ocean frontiers without any transboundary conflicts. The OFI calls for fostering global ocean literacy and also in conducting solution-oriented, transnational research in ocean science.

[20]Gabrielle Canonico, Co-Chair of the GOOS Biology and Ecosystems Expert Panel.
[21] https://sdgs.un.org/events/global-launch-ocean-panels-new-ocean-action-agenda-25047
[22] https://sdgs.un.org/statements/ocean-care-16055

V. CALL FOR ACTION AND CONCLUSION

The marine biodiversity beyond national jurisdictions are pivotal in sustaining human life and human economy. Hence, there is a need to facilitate international ocean science cooperation. All countries must engage in ocean research and develop communication. There should be an exploration and encouragement in alternative funding models. Internationally accepted standards to support global, regional and national data centers for effective and efficient management and exchange of ocean data and promote access. Enabling ocean-science policy interactions through diverse avenues would help prepare the society to respond to global ocean change more smoothly and efficiently. Ocean science capacity, productivity and performance must be monitored by aligning national reporting mechanisms.

The BBNJ areas must be protected and used in a sustainable manner so as to preserve their serenity as well as harness the resources out of it for the benefit of mankind.

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